

REMARKS:

The specification is amended to include a Cross Reference section indicating that this patent application is a 371 of and claims priority from International Patent Application No. PCT/CA2003/000980, filed June 27, 2003 (PCT Publication No. WO 2004/006226 A1), which claims priority to Canadian Patent Application No. 2,392,640, filed July 5, 2002. This priority claim was acknowledged in the Filing Receipt mailed on January 13, 2006.

Claim 3 is amended for purposes of clarity. Support for the amendments can be found in original claim 1, which was canceled in the Supplemental Preliminary Amendment filed on December 12, 2008. No new matter is added.

Claims 98-113 are canceled herein without prejudice or disclaimer. Claims 1, 5, 8-13, 15-18, 20-31 and 33-62 were previously canceled without prejudice or disclaimer.

In view of the above-noted claim amendments, claims 2-4, 6, 7, 14, 19, 32 and 63-97 are currently pending, with claims 14, 19, 32, 75, 81, 85 and 92 being independent claims.

An interview summary is provided for the telephone interview of May 7, 2009.

An Information Disclosure Statement (IDS) and form PTO-1449 are included herewith. It is respectfully requested that the Examiner review and consider the identified references.

I. CLAIM OBJECTIONS

The Examiner objected to claims 2-4, 6 and 7 as depending on succeeding claims (e.g., claim 2 depends from claim 14). *See p. 2 of the Office Action.* The Examiner stated: "A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim. See MPEP §608.01(n)."

MPEP §608.01(n)(IV) states in part:

A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

...

During prosecution, the order of claims may change and be in conflict with the requirement that dependent claims refer to a preceding claim.

Accordingly, the numbering of dependent claims and the numbers of preceding claims referred to in dependent claims should be carefully checked when claims are renumbered upon allowance.

Note that 37 CFR §1.75(c) states in part: "One or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application."

Clearly, 37 CFR §1.75(c) does not require that a dependent claim refer to a "preceding" claim. Furthermore, MPEP §608.01(n) clearly acknowledges that during prosecution the order of claims may change.

During the telephone interview (May 7, 2009), the Examiner agreed to withdraw the claim objections.

II. §112 CLAIM REJECTIONS

The Examiner rejected claims 2-4, 6, 7, 14, 19, 32 and 63-113 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. *See pp. 3-4 of the Office Action.* The Examiner argued that the claims (e.g., claims 14 and 98) contain "subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention."

It is briefly noted that claims 98-113 are herein canceled and, thus, the Examiner's rejection of these claims is rendered moot.

Based on the claim rejections and the reasoning presented therefor, it is believed that the Examiner has misunderstood the claimed subject matter. What follows is a non-limiting description of the claimed subject matter, particularly in reference to independent claim 14, with numerous citations to the specification.

In the instant application, various problems or issues with prior art systems are identified. *See p. 3, line 15-p. 4, line 23 and p. 29, lines 3-22.* At least some exemplary embodiments of the invention seek to address these issues, for example, by "implement[ing] a novel technique to improve the performance of variable bit rate speech codecs operating in CDMA wireless systems in situations where the half-rate is imposed by the system." *See p. 29, lines 24-30.*

As explained at p. 30, lines 10-25 with respect to an exemplary embodiment of the invention:

However, in CDMA2000 systems, there is an operation known as packet-level signaling whereby the signaling information is not provided to the coder and the system may force the use of [half rate] HR after the frame has been coded. Thus, if the frame has been coded as [full rate] FR and the system requires the use of HR then the frame will be declared as erased. Moreover, in case of half-rate max and dim-and-burst operation in the interoperable mode where the VBR coder is interoperating with AMR-WB at 12.65 kbit/s, then the Generic HR cannot be used since it is not part of AMR-WB. To avoid erasing the frame in these situations, (packet-level signaling, or dim-and-burst and half-rate max in the interoperable mode) the non-restrictive illustrative embodiment of the present invention uses a half-rate mode directly derived from the full rate mode by dropping a portion of the signal encoding parameters, for example the fixed codebook indices after the frame has been encoded as a full-rate frame. At the decoder side, the dropped portion of the signal-encoding parameters, for example

the fixed codebook indices can be randomly generated and the decoder will operate as if it is in full-rate.

Pages 30-38 of the specification further describe various exemplary embodiments of the invention and aspects thereof.

Claim 14 recites:

A method comprising:

receiving signal-coding parameters (*p. 33, line 10*) representative of a sound signal encoded in accordance with a first communication mode of a first communication scheme (*original Abstract, original claims 1 and 14*);

receiving a request to transmit the signal-coding parameters using a second communication mode of the first communication scheme (*p. 30, lines 1-3*) to reduce bit rate during transmission of said signal-coding parameters (*original Abstract, original claim 14*); and

in response to the request, dropping a portion of the signal-coding parameters to enable transmission of the signal-coding parameters using the second communication mode of the first communication scheme (*p. 30, lines 18-33, original Abstract, original claim 14*).

To assist with the Examiner's understanding of the claim, various non-limiting examples of support in the specification are provided above. These exemplary citations indicate portions of the specification, and various exemplary embodiments and exemplary aspects thereof, that may be considered relevant to the subject matter recited in claim 14, and are provided to assist the Examiner and *not* as limiting interpretations for the various elements of claim 14. The various elements of claim 14 should be accorded their full scope of equivalents.

In pending claim 14, only one communication scheme, the first communication scheme, is recited. With respect to the first communication scheme, there are two communication modes

recited: a first communication mode and a second communication mode. In some exemplary embodiments, these two modes may be seen to correspond to different rates of the first communication scheme, such as a full rate and a half rate, as non-limiting example. *See, e.g., claim 2.*

As a non-limiting example, and in view of claim 14 and pages 4, 29, 30 and 35-36 of the specification, the input of the method recited in claim 14 may comprise a conventional CDMA FR communication ("signal-coding parameters representative of a sound signal encoded in accordance with a first communication mode of a first communication scheme"). As a further non-limiting example, the output of the method recited in claim 14 may comprise a new CDMA HR communication (the result from "dropping a portion of the signal-coding parameters to enable transmission of the signal-coding parameters using [a] second communication mode of the first communication scheme," also referred to in the specification as interoperable HR).

As noted in the specification, a conventional CDMA HR frame (e.g., as imposed by the system for dim-and-burst signaling or during bad channel conditions) would be interpreted by another system using an AMR-WB codec ("the other system") as erased frames. In contrast, the new interoperable HR frame enables the CDMA system (e.g., at the system interface 604 between the CDMA system and the other system) to regenerate the dropped portion of the signal-coding parameters (e.g., by randomly generating algebraic codebook indices) and insert the regenerated portion in order to obtain a FR frame that is compatible with the other system. In such a manner, even though the CDMA system may impose HR operation at times, the HR operation (via the interoperable HR) will not prevent or inhibit interoperation with another system that uses an AMR-WB codec.

Note that claim 14 is not tied to any particular system or codec. In fact, as observed in the specification, the exemplary embodiments of the invention may be utilized in conjunction with types of codecs other than AMR-WB and CDMA. *See p. 12, lines 29-30.*

Based on the above, it is believed that the subject matter recited in claim 14 is described in the

specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

During the telephone interview (May 7, 2009), the Examiner agreed with the above reasoning. It is respectfully requested that, should the Examiner maintain the § 112, first paragraph rejection of claim 14, the Examiner identify specifically which elements of claim 14 the Examiner considers as not being supported by the specification.

III. §103(a) CLAIM REJECTIONS

The Examiner rejected claims 2, 6, 7, 14, 19, 32, 64, 66-68, 70-73, 75-81, 83-85, 87-90, 92-98, 100, 101, 103-105, 108-110, 112 and 113 under 35 U.S.C. §103(a) as being unpatentable over *Graf et al.* (WO 01/03391, referred to herein as "*Graf*") in view of *Jacobs et al.* (U.S. Patent No. 5,414,796, referred to herein as "*Jacobs*"). *See pp. 5-13 of the Office Action.* The Examiner rejected claims 4, 63, 65, 69, 74, 82, 86, 91, 99, 106, 107 and 111 under 35 U.S.C. §103(a) as being unpatentable over *Graf* in view of *Jacobs* and further in view of *El-Maleh* (U.S. Patent Application Publication No. 2002/0101844). *See pp. 13-15 of the Office Action.* The Examiner rejected claim 3 (and claim 102, see p. 16) under 35 U.S.C. §103(a) as being unpatentable over *Graf* in view of *Jacobs* and further in view of Official Notice. *See pp. 15-16 of the Office Action.* The Examiner rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over *Graf* in view of *Jacobs* and *El-Maleh* and further in view of Official Notice. *See p. 16 of the Office Action.* These rejections are respectfully disagreed with and are traversed below.

Graf discusses imposing rate adaptation on the information prior to passing from a first network to a second network. *See Abstract.* *Graf* is specifically concerned with enabling a first communication having a lower bit rate (e.g., 8 or 16 kbit/s) to traverse another network that utilizes a higher bit rate (e.g., 64 kbit/s). *See, e.g., p. 2, lines 1-7 and p. 6, lines 14-16.* The rate adaptation described by *Graf* entails utilization of a bit stuffing technique. *See, e.g., p. 5, lines 4-6.* In this process "extra bits are inserted into the fixed transit network frame structure so that the user data can be transmitted in a compressed digital format." *See p. 9, lines 4-6.* The stuffed bits

are subsequently extracted on the receiving side. *See p. 9, lines 7-12.*

Based on the above-noted telephone interview, it appears that the Examiner is arguing that since the communications in *Graf* are bidirectional, there must be some complementary rate adaptation for the reverse direction (i.e., having a communication with a higher bit rate be received at a lower bit rate). However, *Graf* does not describe operations in the reverse direction. *Graf* is not seen to provide any information concerning communications that might be sent in the reverse direction.

Furthermore, consider that *Graf* discloses adding stuff bits for the low-to-high rate adaptation. If a communication were to originate from the higher rate end, the communication would likely be comprised of data. That is, the higher rate communication would be in accordance with the higher bit rate and, thus, would not originally contain any stuff bits. If this were accurate, and there is no disclosure or suggestion by *Graf* otherwise, then what would be removed in the reverse direction? *Graf* is unclear on this point and, thus, the Examiner's argument fails to hold.

During the telephone interview (May 7, 2009), the Examiner agreed with the above reasoning.

Graf does not disclose or suggest "receiving a request to transmit the signal-coding parameters using a second communication mode of the first communication scheme **to reduce bit rate during transmission of said signal-coding parameters**," as recited in claim 14. The techniques described by *Graf* are used to *increase* bit rate during transmission.

Graf also does not disclose or suggest "in response to the request, **dropping a portion of the signal-coding parameters** to enable transmission of the signal-coding parameters using the second communication mode of the first communication scheme," as recited in claim 14. *Graf* discloses *adding* stuff bits. The stuff bits are removed *after transmission*, not "to enable transmission." As the Examiner observes on p. 6 of the Office Action, *Graf* does not disclose or suggest dropping a portion of the signal-coding parameters (e.g., the information that is to be transmitted).

Jacobs does not remedy the above-noted defects of *Graf*, nor does the Examiner argue otherwise.

The features recited in claim 14 are not disclosed or suggested in the cited art. *Graf* in view of *Jacobs* certainly does not render claim 14 obvious. Therefore, claim 14 is patentable and should be allowed.

Though dependent claims 2-4, 6, 7 and 63-68 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 14.

Independent claims 19, 32, 75, 81, 85 and 92 claim similar features as claim 41 noted above. For the same reasons stated above with respect to claim 14, independent claims 19, 32, 75, 81, 85 and 92 are not rendered obvious by *Graf* in view of *Jacobs*. Therefore, claims 19, 32, 75, 81, 85 and 92 are patentable and should be allowed.

Though dependent claims 69-74, 76-80, 82-84, 86-91 and 93-97 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable independent claims 32, 75, 81, 85 and 92.

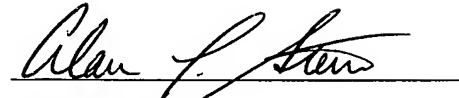
The Applicants respectfully reserve the right to argue one or more of the dependent claims in any future action, such as when responding to further Office Action or in an Appeal Brief, for example. No admission, explicit or implicit, is made concerning the Examiner's rejections of the dependent claims.

The Examiner is respectfully requested to reconsider and remove the rejections of claims 2-4, 6, 7, 14, 19, 32 and 63-97 and to allow all of the pending claims as now presented for examination. For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Should any unresolved issue remain, the Examiner is invited to call Applicants' agent at the telephone number indicated below.

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Respectfully submitted:


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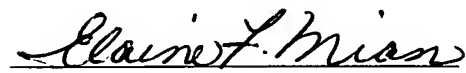
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